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United States Patent [19][11] **Patent Number:** **6,105,438****Gieseke**[45] **Date of Patent:** **Aug. 22, 2000**[54] **RECONFIGURABLE MULTIPLE
COMPONENT LOAD MEASURING DEVICE**[75] **Inventor:** **Thomas J. Gieseke**, Newport, R.I.[73] **Assignee:** **The United States of America as
represented by the Secretary of the
Navy, Washington, D.C.**[21] **Appl. No.:** **09/152,476**[22] **Filed:** **Sep. 11, 1998**[51] **Int. Cl.⁷** **G01D 7/00**[52] **U.S. Cl.** **73/862.042; 73/862.046**[58] **Field of Search** 73/862, 862.041,
73/862.042, 862.043, 862.044, 862.045,
862.046[56] **References Cited****U.S. PATENT DOCUMENTS**

3,618,376 11/1971 Shull et al. 73/862.045

4,706,505	11/1987	King	73/862.041
4,802,371	2/1989	Calderara et al.	73/862.043
5,821,431	10/1998	Durand	73/862.043
5,859,372	1/1999	Neltoft	73/862.043
5,889,214	3/1999	Kang et al.	73/862.044

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Kasichke; Prithvi C. Lall[57] **ABSTRACT**

A force measurement device that includes a lower support platform. An upper support platform is positioned in spaced relation above the lower support platform. A plurality of members also connects the lower support platform and the upper support platform. On each connecting member there is a load cell, which indicates changes in stress in the members.

16 Claims, 1 Drawing Sheet